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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/765,759	01/27/2004	Johannes Karl Notthoff	NGC-190/000418-804	1908
32205	7590	04/03/2006	EXAMINER	
CARMEN B. PATTI & ASSOCIATES, LLC ONE NORTH LASALLE STREET 44TH FLOOR CHICAGO, IL 60602			MOTTOLA, STEVEN J	
			ART UNIT	PAPER NUMBER
			2817	

DATE MAILED: 04/03/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

10/765,759

Applicant(s)

NOTTHOFF, JOHANNES KARL

Examiner

Steven J. Mottola

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-13 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☐ Claim(s) \_\_\_\_ is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 27 January 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

## Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

## Attachment(s)

- |   |  |
|---|--|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. ____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                  | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)            |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date ____ | 6) <input type="checkbox"/> Other: ____  |

The petition to withdraw the holding of abandonment filed 2-1-06 is acknowledged but is moot since the application was never held abandoned; the postcard receipt filed therewith is accepted as sufficient evidence of a response having been timely filed.

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-6 & 8-12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Burns et al. in view of Vice.

Regarding independent claims 1,3,8 & 9 Burns et al. in fig. 6 disclose a differential transistor pair M1,M2 that may be read as the differential transistor pair circuit claimed, having resistor loads elements R1,R2 that may be read as the like elements claimed, an inductor L1,L2 that may be read as the like elements claimed connected in series with each resistive load as claimed. The difference between the claim and Burns et al. is that there is no explicit disclosure of mutual inductance between the inductors in Burns et al. and the implied use of bipolar transistors rather than the FETs of Burns et al. Vice however teach at paragraph 4 replacing the individual inductors of a differential amplifier with mutually coupled ones (such as a transformer T1 of Vice), including inductors used at the output ports of a differential amplifier (paragraph 2). Thus it would have been obvious to substitute mutually coupled inductors for the individual inductors of Burns et al. because Vice teaches just such a substitution, and Vice teaches at paragraph 10 that either FETs or bipolars may be used for

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differential amplifiers. The method steps of claim 8 are met in a manner analogous to the apparatus claims. The "increasing bandwidth" limitation of the preamble must inherently be met by the combination since all of the claimed steps are met in the context claimed, that is, Burns et al. connects an inductor in series with each of the resistive loads of a differential amplifier and they may be mutually coupled as taught by Vice. Note the transformer T1 of Vice w.r.t. claim 9. Regarding the arguments presented in the response filed February 1, 2006, even if the inductors of Burns et al. are loads as asserted, this is in no way excluded by the claims. Indeed, the preamble of claim 9 refers to a "compound load" implying that both the resistance and inductance forms part of the load. The lack of resistance in the drain or collector circuits is immaterial, since Vice is relied upon only for the teachings recited above. The resistors are already present in the primary reference to Burns et al. The combination of references is not based on 'hindsight' as suggested by the applicant, but rather a direct teaching in the secondary reference as outlined above. Other arguments, such as regarding collector time constant and capacitance and rise and fall times do not appear to relate to any claimed limitations. Regarding claims 2,4 & 10, the inductors of Burns et al. are connected to the '+' & '-' terminals and will thus be out of phase as claimed. Regarding claims 5 & 11, note current source I1 of Burns et al. Regarding claims 6 & 12, the gates (analogous to bases) of M1,M2 of Burns et al. receive '+' & '-' inputs.

Claims 7 & 13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Burns et al. in view of Vice in further view of Brown.

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The difference between Burns et al. in view of Vice as described above and claims 7 & 13 is the buffer stage claimed. However, as described in the previous Office action Brown discloses a buffer stage connected to the collectors of an inductively loaded differential amplifier at fig. 16. It would have been obvious to utilize such a buffer with the combination differential amplifier of Burns et al. in view of Vice as described above because it would facilitate isolation or impedance matching to a further stage for instance. The reduction of collector loading would be inherent, even if this is not the intent of Brown as argued by the applicant.

**THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).


A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Steven J. Mottola whose telephone number is 571-272-1766. The examiner can normally be reached on M-Th from 8 to 5. The examiner can also be reached on about one out of three Fridays from 8 to 4.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Robert J. Pascal, can be reached on 571-272-1769. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Steven J. Mottola  
Primary Examiner